

What is claimed is:

1. An image forming apparatus comprising:

an image bearing member;
a charging device for charging said image bearing member;
a developing device for developing an electrostatic image formed on said image bearing member with developer to form a developer image;

a transfer device for transferring said developer image from said image bearing member onto an image receiving member; and

a developer charging member for charging residual developer on said image bearing member, said developer charging member being disposed in contact with said image bearing member at a location on the downstream side of said transfer device and on the upstream side of said charging device in a moving direction of said image bearing member;

wherein a DC voltage applied to said developer charging member has a slope at the start of the application of said DC voltage, and an absolute value of the slope is selectable from a first value and a second value which is greater than said first value.

2. The image forming apparatus as set forth in claim 1, wherein said first value is less than or equal to 2,000 V/sec.

3. The image forming apparatus as set forth in claim 2, wherein when said first value is selected, a rising period of time at the start of the application of said DC voltage is less than or equal to the time required for said image bearing member to make a

revolution.

4. The image forming apparatus as set forth in claim 2, wherein said second value is greater than 2,000 V/sec.

5. The image forming apparatus as set forth in any one of claims 1 through 4, when a position at which said developer charging member is in contact with said image bearing member is a region which is to be an image forming area of said image bearing member, said first value is selected, whereas when said position at which said developer charging member is in contact with said image bearing member is a region of said image bearing member to which said developer is made to transfer from said developer charging member, said second value is selected.

6. The image forming apparatus as set forth in claim 1, wherein said charging device is provided with a contact charging member which can be in contact with said image bearing member so as to charge said image bearing member.

7. The image forming apparatus as set forth in claim 6, wherein said contact charging member is applied with a voltage which is formed by superimposing an AC voltage on a DC voltage.

8. The image forming apparatus as set forth in claim 1, wherein said developer charging member comprises a fiber brush member.

9. The image forming apparatus as set forth in claim 1, wherein said developer charging member charges said residual developer to a normal charging polarity of said developer.

10. The image forming apparatus as set forth in claim 1, wherein said developing device is capable of performing collecting operation for collecting said residual developer from said image bearing member simultaneously with developing operation.

11. The image forming apparatus as set forth in claim 10, wherein said charging device has the same charging polarity as a normal charging polarity of said developer.

12. An image forming apparatus comprising:
an image bearing member;
a charging device for charging said image bearing member;
a developing device for developing an electrostatic image formed on said image bearing member with developer to form a developer image;

a transfer device for transferring said developer image from said image bearing member onto an image receiving member; and

a first developer charging member for charging residual developer on said image bearing member, said first developer charging member being disposed in contact with said image bearing member at a location on the downstream side of said transfer device and on the upstream side of said charging device in a moving direction of said image bearing member, a first DC voltage of a polarity

opposite to a normal charging polarity of said developer being applied to said first developer charging member; and

a second developer charging member for charging said residual developer on said image bearing member, said second developer charging member being disposed in contact with said image bearing member at a location on the downstream side of said first developer charging member and on the upstream side of said charging device in the moving direction of said image bearing member, a second DC voltage of the same polarity as the normal charging polarity of said developer being applied to said second developer charging member;

wherein said first DC voltage has a first slope at the start of the application of said first DC voltage, and an absolute value of the first slope is selectable from a first value and a second value which is greater than said first value, and said second DC voltage has a second slope at the start of the application of said second DC voltage, and an absolute value of the second slope is selectable from a third value and a fourth value which is greater than said third value.

13. The image forming apparatus as set forth in claim 12, wherein each of said first and third values is less than or equal to 2,000 V/sec.

14. The image forming apparatus as set forth in claim 13, wherein when said first and third values are selected, a rising period of time at the start of the application of each of said first and

second DC voltages is less than or equal to the time required for said image bearing member to make a revolution.

15. The image forming apparatus as set forth in claim 13, wherein each of said second and fourth values is greater than 2,000 V/sec.

16. The image forming apparatus as set forth in any one of claims 12 through 15, when a position at which each of said first and second developer charging members is in contact with said image bearing member is a region which is to be an image forming area of said image bearing member, said first and third values are selected, whereas when said position at which each of said first and second developer charging members is in contact with said image bearing member is a region of said image bearing member to which said developer is made to transfer from said first and second developer bearing members, said second and fourth values are selected.

17. The image forming apparatus as set forth in claim 12, wherein said charging device is provided with a contact charging member which can be in contact with said image bearing member so as to charge said image bearing member.

18. The image forming apparatus as set forth in claim 17, wherein said contact charging member is applied with a voltage which is formed by superimposing an AC voltage on a DC voltage.

19. The image forming apparatus as set forth in claim 12, wherein each of said first and second developer charging members comprises a fiber brush member.

20. The image forming apparatus as set forth in claim 12, wherein said developing device is capable of performing collecting operation for collecting said residual developer from said image bearing member simultaneously with developing operation.

21. The image forming apparatus as set forth in claim 20, wherein said charging device has the same charging polarity as a normal charging polarity of said developer.